X

PROGRESS REPORT

OF

THE FOREST SURVEY BRANCH

FOR

1882-83:

BY

MAJOR F. BAILEY, R. E.,

SUPERINTENDENT OF FOREST SURVEYS.

WITH REMARKS BY THE SURVEYOR GENERAL OF INDIA,

AND

WITH THE ORDERS OF THE GOVERNMENT OF INDIA.

1884.

No. 151 F., dated Calcutta, the 1st March 1884.

From—A. MACKENZIE, Esq., C. S., Secretary to the Government of India, Home Department.

To—The Surveyor General of India.

I AM directed to acknowledge the receipt of your letter No. 2645 S. of the 8th December last, forwarding the Annual Report of the Superintendent of Forest Surveys for the year ending the 30th September 1883.

2. The operations of the Forest Survey Branch extended during the year over parts of Kumaun and Garhwal, Tehri-Garhwal, Jaunsar, and Berar; while a number of boundary pillars were surveyed, and boundaries laid down, in Dehra Dún and in Saharanpur.

Only 75 square miles remained at the close of the year to be surveyed in Kumaun and Garhwal; so that the main body of the Branch will, for some years to come, be employed on the survey of the Melghat taluk in Berar.

3. The outturn of work during the year comprises an area of 361 square miles plane-tabled on the scale of 4″ = 1 mile, against 265 square miles in the previous year. This favourable result is said to be chiefly due to an exceptionally healthy season. The area triangulated was 85 square miles.

Eight sheets of the Kumaun and Garhwal survey were published, and one had gone to press by the close of the year.

4. The cost per square mile, estimated on the total area plane-tabled, came to Rs. 94, against Rs. 104 in the preceding year; and the total cost of the Kumaun and Garhwal survey has been reduced from Rs. 116 to Rs. 112. The total cost of the Jaunsar and Tons survey up to date is Rs. 186 per square mile, and this comparatively high rate is said to be due to some extent to the inclusion of a considerable amount of boundary and road survey work, against which no area can be shown.

5. On the whole, the results of the year's work are very satisfactory, and it is noticed that you found, on your inspection of the Forest Survey Office in November last, efficiency and good management visible on all sides. The Deputy Surveyor General in charge of the Trigonometrical Branch has continued to render, during the year, much valuable assistance to the Forest Survey Branch.

No. 152 F.

COPY, with copy of the Report, forwarded to the Government of the North-Western Provinces and Oudh for information.

No. 153 F.

COPY, with copy of the Report, forwarded to the Revenue and Agricultural Department for information.

No. 154 F.

COPY, with copy of the Report, forwarded to the Inspector General of Forests for information and for communication to the Superintendent of Forest Surveys.

A. H. M.—Home Department Press—No. 121—5-3-84—225.

PROGRESS REPORT OF THE FOREST SURVEY BRANCH FOR 1882-83.

No. 2645S., dated the 8th December 1883.

From—The Officiating Surveyor General of India.

To—The Secretary to the Government of India, Home Department.

I HAVE the honour to forward the Annual Progress Report of the Forest Survey Department, from the 1st October 1882 to the 30th September 1883, by Major F. Bailey, R. E., Superintendent of Forest Surveys.

2. It will be observed that the outturn of final topography is considerably in excess of last year, being 361 square miles as compared with 265 square miles, on the scale of 4″=1 mile—a satisfactory fact, resulting principally from the more matured experience of all members of the Survey, guided and supervised as it is by a very able Superintendent. The cost per square mile has diminished in proportion from Rs. 104 to Rs. 94 per square mile.

3. In accordance with the instructions conveyed in your No. 696 F., dated the 28th August last, I have to report that I visited the Office of the Forest Survey at Dehra, in the early part of November, and examined the maps, computations, and method as practised in the field and in recess quarters; and I am gratified to be able to record my favourable opinion of the efficiency and good management visible on all sides.

4. I would point out that the Superintendent acknowledges the assistance he has received during the late season from the Deputy Surveyor General in charge of the Trigonometrical Branch, with which the Forest Survey has been affiliated from the beginning.

Annual Progress Report of the Forest Survey Department, from the 1st October 1882 *to the 30th September* 1883: *by* MAJOR F. BAILEY, R.E., *Superintendent of Forest Surveys; dated the 1st November* 1883.

THE SEASON'S FIELD WORK.

Kumaun and Garhwál.

1. The head-quarters' camp under the charge of Mr. W. H. Reynolds, Deputy Superintendent, left Dehra on the 2nd November and reached Láldháng, in Garhwál, on the 11th of that month, when plane-tabling was commenced at once. The head-quarters' camp, with the greater part of the establishment, returned to Dehra on the 12th April, a detachment under Mr. James Marten remaining until the 30th May to close the season's work. Mr. Reynolds took up the plane-tabling in the vicinity of Láldháng. Mr. Chill worked near Kálágarh and Pákhrán during the first part of the field season, and then moved to Lachmanjhula on the Ganges River. Mr. James Marten worked between Haldukháta and Kotdwára, and afterwards near Gularghát on the Ganges. The survey of the Káli Kumaun forests in Eastern Kumaun was continued and completed by Mr. Litchfield, who then marched into Garhwál and continued working in the Chándi Forest until the close of the season. The survey of the

Kumaun forests is now completed, and in Garhwál there remain only about 75 square miles, which will be completed during the coming field season. An index map is attached which shows the country topographically surveyed up to the end of the season of 1881-82, also that surveyed during the field season of 1882-83 and the area traversed in advance.

Berár.

2. Mr. T. S. Marten, with a party of three Sub-Surveyors, left Dehra on the 1st November to continue the surveys in the Melghát and in South Berár begun in 1880-81. The party continued working until the 17th of May and then returned to Dehra. Mr. Reynolds inspected the work between the 7th and 16th of February.

Bhagirathi Valley, Tiri-Garhwál.

3. The triangulation begun last season was continued this year during the months of April, May, and June, Mr. Reynolds having, immediately after his return from Jaunsár, marched to Gangotri to start this work. He returned at the end of May, and the triangulation was continued and completed by a Native Surveyor (Salig Rám). The plane-tabling was undertaken by Mr. James Marten, who completed it in the interval between the middle of June and the middle of September.

Jaunsár Division.

4. Orders having been received to survey the deodar forests of the Dhárágádh Valley, Mr. Reynolds triangulated the ground between the 12th and 22nd of April. The plane-tabling was undertaken by Mr. Chill, with a party of three Sub-Surveyors, work having been commenced on the 21st May and completed on the 22nd June.

Dehra Dún and Saháranpúr Divisions.

5. In the Dehra Dún and Saháranpúr Divisions of the School Circle a large number of new boundary pillars were surveyed, and, in addition to this, a considerable length of outer boundary, in the Saháranpúr Division, was laid down on the ground, with the aid of the published maps. Some new forest roads and interior block boundaries were also surveyed. One Sub-Surveyor was employed upon this work from the 1st to the 27th November and from the 22nd March to the 4th June.

Abstract of Field Work.

6. Appendix A. contains a summary of the outturn of field work. The area plane-tabled on the scale of 4″=1 mile was 361 square miles, distributed as follows:—in Kumaun and Garhwál 261 square miles, in the Bhágirathi Valley 32 square miles, in Jaunsár 7 square miles, and in Berár 61 square miles, making a total of 361 square miles as the season's outturn. This compares favourably with the previous year's outturn—viz., 265 square miles—the increase being due to two causes—viz., an exceptionally healthy season, and the work in the hills, which enabled the field season to be very much prolonged. The plane-tabling was confined almost entirely to intricate hilly ground. In the Bhágirathi Valley, the progress of the work was much retarded by the dense mist which enveloped the hills during the greater part of the day. The average monthly outturn of plane-tabling, on the scale of 4″=1 mile, by a party of one European and five Sub-Surveyors working in Kumaun and Garhwál was 13·7 square miles, as against 13 square miles in the previous season; in Jaunsár the area turned out, on the scale of 4″=1 mile, in one month by a party of one European and three Sub-Surveyors was 6·7 square miles. In the Bhágirathi Valley the average for a party of one European and four Sub-Surveyors, working on the scale of 4″=1 mile, was 9·2 square miles; and in Berár a party of one European and one Sub-Surveyor, working on the same

scale, plane-tabled 7 square miles in 15 days; but the ground surveyed was very open and contained a comparatively small amount of detail. A large amount of miscellaneous work was done, against which no area can be shown: in the Dehra Dún and Saháranpur Divisions 215 new boundary pillars were surveyed, extending over a length of about 74 miles; the outer forest boundary in the Saháranpúr Division was laid down on the ground, with the aid of the published maps, over a length of about 65 miles. The area triangulated was 85 square miles—23 in Jaunsár and 62 in the Bhágirathi Valley—giving 162 fixed points. The number of linear miles traversed was 475, embracing an area of 793 square miles, and giving 4,487 fixed stations. Barometrical observations were taken at 999 places.

OFFICE WORK.

Computations.

7. The number of linear miles of traversing computed in duplicate was 627, the average hypotenusal correction being 4·6 per 1,000. The number of triangles worked in duplicate was 277, giving 175 fixed points. The rectangular co-ordinates of 140 stations of the Great Trigonometrical Survey were computed in duplicate. The number of triangles worked in duplicate to determine heights was 351, by which the heights of 160 points were determined. The number of barometrical observations computed in duplicate was 201, the number of heights determined thereby being 165. With the exception of some trigonometrical and barometrical heights, all the computations of the Kumaun and Garhwál Survey have been computed.

Map drawing.

8. Appendix B. gives a summary of the original drawings under preparation during the year. Of the 12 sheets of the Kumaun and Garhwál Survey reported as being in progress last year, Nos XXXVIII, XLV, XLIX, LVI, LVII, LVIII, LXV, and LXVI have been published; No. LXXVI has gone to the press; the drawing of Nos. L, LXXII, and LXXIV has been finished, but the names remain to be added to them. The drawing of sheet No. XLII of Kumaun and Garhwál is in progress. The following original drawings are also in progress—viz., a map in two sheets of the forests of the Tons Division, on the scale of 4″= 1 mile; a map, on the same scale, of the deodar forests of the Dháragádh Valley, Jaunsár; a chart of the Kumaun and Garhwál triangulation, on the scale of 1″= 1 mile; a map, on the scale of 16″= 1 mile, of the Mohna block of the Jaunsár Division; a map of the forests of the School Circle, scale 1″=10 miles; a sketch map of each of the four divisions of the School Circle, scale 1″=4 miles; an index map showing the number and arrangement of the sheets of the Melghát Survey, Berár, scale 1″= 8 miles; a second index map for the Melghát Survey, scale 1″= 4 miles, showing the areas to be surveyed on the scale of 4″= 1 mile; a triangulation chart of the Melghát Survey, Berár, on the scale of 1″= 1 mile, in six sheets; a map in 10 sheets of the ten black soil villages of the Bairagárh Reserve, Berár, scale 4″= 1 mile (the drawing of three of the sheets has been completed, and a fourth is in progress); a specimen drawing for the Surveyor General of India, being a copy of one of the field sheets of the Forest Survey to illustrate the style and method of working adopted; specimens of drawings for the use of the drawing class of the Forest School; diagrams for the Forest School to illustrate the difference between the English and metrical measures; and a specimen sheet, on the scale of 4″= 1 mile, of the Chaurakund (black soil) village of the Bairagárh Reserve, Berár, with contour lines at 25 feet intervals. Owing to the absence of Mr. Reynolds, on

leave, and of Mr. James Marten, on work in the Bhágirathi Valley, there is a decrease this season in the number of sheets of the Kumaun and Garhwál Survey in progress.

Miscellaneous work.

9. Eighty-eight tracings were made and supplied to various District and Forest Officers, 576 printed maps were coloured, and 256 printed maps were mounted in book form. The area of the forest on 35 printed sheets of the Dehra Dún and Siwaliks Survey, and on 45 sheets of the Kumaun and Garhwál Survey, has been calculated. The length in miles of the outer boundaries of the Government forests of the Dehra Dún, Saháranpúr, Jaunsar, and Tons Divisions of the School Circle, and of the Kumaun Division of the Central Circle, was calculated and tabulated. The distances of important places in the Dehra Dún and Saháranpúr Divisions of the School Circle were also measured and tabulated alphabetically. The record of forest growth has been added to 23 printed maps. The revision of the lists of all available maps of the Reserved Forests in the various provinces under the Government of India, adverted to in the previous season's Report, has been taken in hand, with a view to keeping the lists up to date, as ordered in Government of India, Home Department, Circular No. 7F. dated 22nd May 1883; and the addition to or alteration of the forest boundaries on the maps is also being effected, where necessary, from recent surveys or from sketches supplied by Conservators.

INSTRUCTION OF STUDENTS OF THE FOREST SCHOOL.

10. The 16 students mentioned in the previous Report as being under instruction in Surveying, received certificates of qualification by the lower standard, and 19 other students are now under instruction. Last year the field work and office work were taught together during the recess season, but the present recess season is being devoted entirely to indoor work, such as printing, plan-drawing, &c., and the practical field work will be taught during the coming field season.

CERTIFICATES OF QUALIFICATION IN SURVEYING.

11. The maps and field books of three subordinates of the Department were examined and reported upon, and certificates of qualification were granted to them.

USE OF BLUE PRINTS AND WATER LEVELS.

Use of Blue Prints.

12. In continuation of paragraph 11 of the Report for 1877-78, it is to be said that the blue prints therein referred to have been successfully used for some years past by the Working-Plans Branch. A number of sheets of various tints have now been made over to Mr. Fernandez, with a view to his deciding which colour is the most suitable for his work.

Use of Water Levels.

13. Some water levels have been made up, and it is intended to use them experimentally during the coming season.

EXPENDITURE.

Expenditure during the Survey Year.

14. Appendix C. gives the expenditure on field and office work in Kumaun and Garhwál, in the Tons and Jaunsár Divisions, and in the Bhágirathi Valley, as well as that on other work. The cost of the field work in Berár amounted to Rs. 5,139, which was provided from provincial funds. In Kumaun and Garhwál the cost of field and office work was Rs. 22,615; the cost of field work in the Bhágirathi Valley was Rs. 3,234, and including office work Rs. 3,437;

and the cost of field and office work in the Jaunsár and Tons Divisions was Rs. 2,472. The total cost of field and office work, including all expenditure, was Rs. 44,188. The cost per square mile, estimated on the total area plane-tabled, was Rs. 94, or 2 annas 4 pies per acre. This includes a considerable amount of work for which no area can be given. The cost of the work for the previous season, estimated in the same way, was Rs. 104 per square mile, or 2 annas 7 pies per acre.

Final cost of Forest Survey work.

15. The cost of the Kumaun and Garhwál Survey up to the end of September last was Rs. 116 per square mile. Adding to this the charges for the year now under report, the cost to date, including all charges, amounts to Rs. 112 per square mile. The cost up to date of the Jaunsár and Tons Survey, including the mapping, is Rs. 186 per square mile. The cost of the field work in the Bhágirathi Valley is Rs. 107 per square mile. The cost of the Jaunsár and Tons Survey is high, because it includes a very large amount of boundary and road survey work, against which no area can be shown.

OFFICERS OF THE SUPERIOR STAFF.

Mr. W. H. Reynolds, Deputy Superintendent.

16. Mr. W. H. Reynolds, Deputy Superintendent of Forest Surveys, was in executive charge of the field operations in Kumaun and Garhwál, in Jaunsár, in the Bhágirathi Valley, and in Berár up to the end of May. He visited the field parties at work in Kumaun and Garhwál and in Berár. He triangulated the deodar forests of the Dharagádh Valley in Jaunsár, and he started the triangulation of the deodar forests in the Bhágirathi Valley. He is now on six months' furlough, having made over the charge of the office of Deputy Superintendent to Mr. Litchfield on the 1st of June.

Mr. E. Litchfield, Assistant Conservator of Forests.

17. Mr. Litchfield was employed in plane-tabling in Eastern Kumaun from the 11th November to the 20th February, when he completed the survey of the Kumaun forests. He then marched to Garhwál and worked in the Chandi Forest, and in the other forests of the Ganges Division of the Central Circle, from the 4th of March to the 20th of May. On the 1st of June he took over charge of the office of Deputy Superintendent of Forest Surveys from Mr. Reynolds. He has conducted the recess work efficiently.

FOREST SURVEYORS.

Mr. G. P. Chill.

18. Mr. Chill marched from Dehra with the head-quarters' camp, and was employed in plane-tabling in Garhwál from the 15th November to the 7th May. He then marched to Jaunsár and worked in the Dháragádh Valley from the 21st May to the 22nd of June. He has, as usual, worked well and given satisfaction.

Mr. T. S. Marten.

19. Mr. T. S. Marten left Dehra on the 1st of November for Berár to continue the work he was employed upon during the previous season. He commenced work on the 9th November and closed on the 17th May, when he started for Dehra. During the present recess season Mr. Marten has suffered a good deal from ill health, but he is improving in his drawing.

Mr. James Marten.

20. Mr. James Marten left Dehra on the 1st November with the head-quarters' camp and marched to Garhwál, where he worked from the 11th November to the end of May. He then

marched to Tiri-Garhwal, and on the 22nd June commenced the plane-tabling of the deodar forests of the Bhágirathi Valley; he completed the survey, and returned to Dehra on the 30th September. As already stated, Mr. Marten was much delayed by the heavy mists, which sometimes completely stopped all out-door work. His work on the Bhágirathi was much facilitated by Mr. Bryant, the Officer in charge of the Division, who enabled him to overcome the difficulties he experienced in obtaining supplies, and in laying down the boundaries correctly on the field sheets. Mr. Marten's field sheets are very neatly finished, and the style of his drawing is greatly improved.

SUB-SURVEYORS

21. The average monthly strength of the Native establishment employed on each kind of work during the field season was—

Plotting boards	1
Traversing	3½
Computing	1½
Plane-tabling	18½
Total in field ...	24½
At head-quarters ...	5½
Total	30

The Native establishment has, as usual, worked very well; one or two of the Sub-Surveyors have improved so much that, under close supervision, they are able to ink in their own field sheets in a very satisfactory manner.

Health of the Establishment.

22. The establishment, European and Native, suffered slightly from fever; but on the whole the present season has been an exceptionally healthy one.

WORK DONE BY THE SURVEY OF INDIA FOR THE FOREST SURVEY.

23. It gives the Superintendent of Forest Surveys much pleasure to have again to acknowledge the advantages he has enjoyed owing to the kindness and courtesy of Mr. J. B. N. Hennessey, F. R. S., Deputy Surveyor General, in whose office his maps have been photo-zincographed, and who has undertaken for him a considerable amount of printing and other work.

24. The following documents are appended to this Report—

1. Chart illustrating the Progress of the Work.
2. Appendix A—Summary of Outturn of Field Work and Computations.
3. Appendix B—Summary of Outturn of Drawing and Miscellaneous Work.
4. Appendix C—Summary of Expenditure from 1st October 1882 to 30th September 1883, showing the amounts expended on Field and Office Work.
5. Annual Form No. 53—Summary of Revenue and Expenditure during the financial year.
6. Annual Form No. 55—Statement of Outstandings and Liabilities.
7. Annual Form No. 56—Revenue received and Outstandings on account of Revenue.

APPENDICES.

APPENDIX A.

Summary of the Outturn of Field Work and Computations by the Forest Survey Department from the 1st October 1882 to the 30th September 1883.

No.	Kumaun, Garhwál, Jaunsár, Bhágirathi, and Berár Surveys.		Amount.	Remarks.
	Plane-tabling.			
1	Area plane-tabled on the scale of 4″=1 mile—			
	(*a*) Kumaun and Garhwál	261·40	361·27	Square miles.
	(*b*) Bhágirathi	32·14		
	(*c*) Berár	7·00		
	Ditto Forest Boundaries, with a strip of topography 5 chains on either side	54·00		
	(*d*) Jaunsár	6·73		
	Triangulation.			
2	Area triangulated—			
	(*a*) Jaunsár	23·39	85·04	Ditto.
	(*b*) Bhágirathi	61·65		
3	Number of points fixed		162	
	Traversing.			
4	Area traversed		793·33	Ditto.
5	Number of linear miles traversed in Berár		475	
6	Ditto of traverse stations		4,487	
	Computations.			
7	Number of linear miles of traversing computed in duplicate		·627	Average correction per 1,000 = 4·6.
8	Ditto of triangles worked in duplicate		277	
9	Ditto of points fixed thereby		175	
10	Ditto of Great Trignometrical Survey Stations computed in duplicate.		140	
11	Ditto of triangles worked in duplicate to determine heights		351	
12	Ditto of points of which the heights were determined thereby.		160	
13	Ditto of barometrical observations		999	
14	Ditto of ditto computed in duplicate		201	
15	Ditto of points the heights of which were determined thereby.		165	

APPENDIX B.

Summary of Outturn of Drawing and Miscellaneous Work executed by the Forest Survey Department from 1st October 1882 to 30th September 1883.

No.	Particulars.	Numbers of Sheets.	Remarks.
	Original drawings.		
1	Kumaun and Garhwál sheets (in progress) Nos. XLII, L, LXXII, LXXIV.	4	
2	Map of the Tons Division, scale 4″=1 mile (in progress)...	1	
3	Map of Dharágadh, in Jaunsár, scale 4″=1 mile (in progress).	1	
4	Chart of Kumaun and Gharwál Triangulation, scale 1″=1 mile.	1	
5	Map of Mohna Block, Jaunsár, scale 16″=1 mile (in progress).	1	
6	Map of the Forests in School Circle, scale 1″=10 miles (in progress).	1	
7	Sketch Maps of the Divisions of the School Circle, showing Ranges and Beats, scale 1″=4 miles (in progress).	4	
8	Index map of Berár, scale 1″=8 miles (in progress) ...	1	
9	Ditto ditto scale 1″=4 miles (in progress) ...	1	
10	Triangulation Chart of the Melghát Survey, Berar, scale 1″=1 mile.	6	
11	Map of the ten black-soil villages in the Bairagarh Reserve, Berár, scale 4″=1 mile.	4	
12	Specimen Drawing for the Surveyor General of India to illustrate the style of work of the Forest Survey.	1	
13	Specimen Drawings for the instruction of the drawing class of the Forest School.	4	
14	Drawings to illustrate the difference between the English and the metrical systems of measurement.	2	
15	Specimen sheet of the Chaurakund (black soil) village of the Bairagarh Reserve, with contours 25′ apart, scale 4″=1 mile.	1	
	Tracings made.		
16	Tracings made for various Forest and District Officers ...	88	
	Maps colored.		
17	Printed Maps of various kinds colored	576	
	Mounted maps.		
18	Printed Maps mounted in book form	256	
	Area of Forests measured.		
19	Area measured in Dehra Dún and Saháranpur forests from the sheets of Dehra Dún and Siwaliks Forest Survey.	35	
20	Area in Kumaun and Garhwál forests measured from the sheets of Kumaun and Garhwál Forest Survey.	45	
21	Linear miles of outer boundary of Dehra Dún, Saháranpur, Jaunsár, and Tons Divisions measured.	40	
	Record of Forest Growth.		
22	Kumaun and Garhwál sheets XII, XIII, XVI, XVII, XVIII, XXI, XXII, XXIII, XXV, XXVI, XXVIII, XXX, XXXI, XXXII, XXXIII, XXXIV, XXXV, LVI, LVII, LVIII, LXIV, LXVII, LXVIII.	23	In duplicate sheets

APPENDIX C.

Summary of Expenditure from 1st October 1882 to 30th September 1883, showing the amounts expended on Field and Office Work.

Number.	Months.	Kumaun and Garhwal.		Jaunsar.		Bhagirathi.		Dehra Dun and Saharanpur.	General.	Total.
		Field.	Office.	Field.	Office.	Field.	Office.			
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1	October 1882	30	1,106	.....	.....	110	50	61	2,295	3,652
2	November „	180	1,416	.....	.....	188	.....	16	2,302	4,102
3	December „	2,928	.....	.....	10	113	.....	28	826	3,905
4	January 1883	2,811	60	.....	.....	.....	75	41	778	3,765
5	February „	2,855	60	.....	.....	.....	28	41	729	3,713
6	March „	2,832	118	.....	.....	.....	.....	21	1,560	4,531
7	April „	3,096	183	42	.....	.....	.....	20	619	3,960
8	May „	2,226	175	814	.....	202	.....	46	637	4,100
9	June „	1,409	100	401	.....	848	.....	46	876	3,680
10	July „	.....	135	544	70	160	.....	25	1,296	2,230
11	August „	.....	418	14	327	2	50	.....	1,072	1,883
12	September „	208	269	.....	250	1,611	.....	.....	2,329	4,667
	Total ...	18,575	4,040	1,815	657	3,234	203	345	15,319	44,188

ANNUAL FORM No. 53 [*Prescribed*].

Summary of Revenue and Expenditure of the Forest Survey Branch during 1882-83.

Budget Heads.	Direction.
Receipts.	Rs. As. P.
I.—Timber and other Produce removed from the Forests by Government Agency—	
a. Timber	.....
b. Firewood and Charcoal	.....
c. Bamboos	.....
d. Sandalwood	.....
e. Grass and other Minor Produce	.....
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers—	
a. Timber	.....
b. Firewood and Charcoal	.....
c. Bamboos	.....
d. Grazing and Fodder Grass	.....
e. Other Minor Produce	.....
III.—Confiscated, Drift, and Waif Wood	.....
IV.—Revenue from Forests not managed by Government—	
a. Duty on Foreign Timber and other Forest Produce ...	.....
b. Revenue from Shared and Private Forests	.....
V.—Miscellaneous—	
a. Fines and Forfeitures	.....
b. Refunds	.....
c. Other sources	347 12 6
Total Receipts ...	347 12 6
Expenditure.	
A.—Conservancy and Works.	
I.—Timber and other Produce removed from the Forests by Government Agency—	
a. Timber	.....
b. Firewood and Charcoal	.....
c. Bamboos	.....
d. Sandalwood	.....
e. Grass and other Minor Produce	.....
II.—Timber and other Produce removed from the Forests by Consumers or Purchasers	.....
III.—Confiscated, Drift, and Waif Wood	.....
IV.—Revenue from Forests not managed by Government—	
a. Duty on Foreign Timber and other Forest Produce ...	.....
b. Revenue from Shared and Private Forests	.....
V.—Rent of Leased Forests, and Payments to Shareholders in Forests managed by Government	.....
VI.—Live Stock, Stores, Tools and Plant—	
a. Purchase of Cattle	.....
b. Feed and Keep of Cattle	1,779 14 6
c. Stores, Tools and Plant	1,355 2 11
VII.—Communications and Buildings—	
a. Roads and Bridges	.....
b. Buildings	.....
c. Other Works	.....
VIII.—Demarcation, Improvement, and Extension of Forests—	
a. Demarcation	.....
b. Compensation for Land and Rights	.....
c. Surveys and Working-Plans	6,425 0 5
d. Plantations	.....
e. Protection from Fire	.....
f. Other Works	.....
Carried over ...	9,560 1 10

ANNUAL FORM No. 53 [*Prescribed*]—contd.

Summary of Revenue and Expenditure of the Forest Survey Branch during 1882-83.

Budget Heads.	Direction.
A.—Conservancy and Works—contd.	Rs. As. P.
Brought over ...	9,560 1 10
IX.—Miscellaneous—	
a. Refunds	.....
b. Law Charges	.....
c. Other Charges	.....
Total A.—Conservancy and Works ...	9,560 1 10
B.—Establishments.	
I.—Salaries—	
a. Conservator	.....
b. Superior Officers	13,392 14 5
c. Subordinate Forest and Depôt Establishments	13,148 10 9
d. Office Establishments	.....
e. Deputation and Special Allowances	60 0 0
II.—Travelling Allowances—	
a. Conservator	.....
b. Superior Officers	1,994 0 0
c. Subordinate Forest and Depôt Establishments	2,200 8 11
d. Office Establishments	.....
III.—Contingencies—	
a. Stationery	2 10 0
b. Carriage of Tents and Records	386 2 6
c. Rents, Rates and Taxes	.....
d. Pay of Police Guards	.....
e. Official Postage	181 15 6
f. Sundries	668 4 4
Total B.—Establishments ...	32,035 2 5
Grand Total of Expenditure ...	41,595 4 3

ANNUAL FORM No. 55 [*Prescribed*].

Forest Survey Branch, Statement of Outstandings and Liabilities on account of Contractors and Disbursers for 1882-83.

Division.	Department Debtor.			Department Creditor.			Balance due.	
	At commencement of year.	Recoveries in cash and value of supplies and work done during the year.	At close of year.	At commencement of year.	Payments made during year.	At close of year.	To Department (Outstandings).	By Department (Liabilities).
		Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	Rs. As. P.	
Survey Branch ...	...	5,049 5 3	5,049 5 3	583 1 7	4,671 3 8	5,254 5 3	205 0 0	...
Total ...	...	5,049 5 3	5,049 5 3	583 1 7	4,671 3 8	5,254 5 3	205 0 0	...

ANNUAL FORM No. 56 [*Prescribed*].

Forest Survey Branch, Statement of Revenue received and Outstandings on account of Revenue during 1882-83.

Division.	Particulars.	Outstandings at commencement of year.	Value of sales and other revenue during year.	Total.	Amount realized during year.	Balance due to the Department at end of year.
			Rs. As. P.	Rs. As. P.	Rs. As. P.	
Survey Branch ...	Miscellaneous Revenue ...	.....	347 12 6	347 12 6	347 12 6	.....
	Total ...	.....	347 12 6	347 12 6	347 12 6	.....

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